

Amendments to the Specification

Please replace the paragraph on Page 5, lines 7 - 13 with the following marked-up replacement paragraph:

– The approach of the present invention offers a number of advantages over prior art validation techniques. As one advantage, because validation criteria (such as rules which describe acceptable data values and formats) can now float with the data model, and therefore with the data values. That is, the validation can travel with the data values, from one implementation to another, as if the validation was simple data. The object containing the data and its validation can be passed between applications, stored, and so forth, and the receiving application need not be aware that validation is contained within the object it is operating upon. --

Please replace the paragraph on Page 11, lines 3 - 7 with the following marked-up replacement paragraph:

– The techniques of the present invention may be used to provide support for “VariableModel” class which was described in commonly-assigned U. S. Patent _____ (serial number 09/669,227, filed 09/25/2000), titled “Object Model and Framework for Installation of Software Packages Using Instantiated Objects”, JavaBeansTM. This patent is hereby incorporated herein by reference as if set forth fully. --

Amendments to the Claims

1 Claim 1 (currently amended): A method of improving data validation, comprising steps of:
2 defining one or more validation criteria for a data value; and
3 encapsulating the defined validation criteria [[with]] within a data model to which they
4 apply.

1 Claim 2 (currently amended): The method according to Claim 1, further comprising the step of
2 using the defined validation criteria to validate [[a]] the data value for the data model.

1 Claim 3 (original): The method according to Claim 1, wherein the validation criteria are
2 expressed in a markup language notation.

1 Claim 4 (currently amended): The method according to Claim 3, wherein the markup language
2 notation is XML ("Extensible Markup Language") notation.

1 Claim 5 (original): The method according to Claim 1, wherein the data model and the validation
2 criteria are expressed in a markup language notation.

1 Claim 6 (currently amended): A system for improving data validation, comprising:
2 means for defining one or more validation criteria for a data value;
3 means for encapsulating the defined validation criteria [[with]] within a data model to
4 which they apply; and

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5 means for using the defined validation criteria to validate [[a]] the data value for the data
6 model.

1 Claim 7 (currently amended): The system according to Claim 6, wherein the data model, the data
2 value, and the validation criteria are expressed in a markup language notation.

1 Claim 8 (currently amended): The system according to Claim 7, wherein the markup language
2 notation is XML ("Extensible Markup Language") notation.

1 Claim 9 (currently amended): A computer program product for improving data validation, the
2 computer program product embodied on one or more computer-readable media and comprising:
3 computer-readable program code means for defining for a data value, one or more
4 validation criteria;

5 computer-readable program code means for encapsulating the defined validation criteria
6 [[with]] within a data model to which they apply; and

7 computer-readable program code means for using the defined validation criteria to validate
8 [[a]] the data value for the data model.

1 Claim 10 (original): The computer program product according to Claim 9, wherein the data
2 model and the validation criteria are expressed in a markup language notation.

1 Claim 11 (currently amended): The computer program product according to Claim 10, wherein

- 2 the markup language notation is XML ("Extensible Markup Language") notation.
- 1 Claim 12 (new): The method according to Claim 1, further comprising the step of invoking a
2 validate method for the data value, thereby triggering a validation of the data value using its
3 defined validation criteria.
- 1 Claim 13 (new): The method according to Claim 1, further comprising the step of associating a
2 validation object containing the defined validation criteria with a variable used to hold the data
3 value.
- 1 Claim 14 (new): The method according to Claim 13, wherein the associating step further
2 comprises the step of specifying, as a value for a name attribute of the validation object, a name of
3 the variable.
- 1 Claim 15 (new): The method according to Claim 1, wherein the data value is a string data value
2 and the defined validation criteria include one or both of a minimum length for the string data
3 value and a maximum length for the string data value.
- 1 Claim 16 (new): The system according to Claim 6, wherein the means for using is activated by
2 occurrence of one or more specified events.
- 1 Claim 17 (new): The system according to Claim 6, wherein the means for using is activated by a

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2 user clicking a user interface button associated with the data value.

1 Claim 18 (new): The system according to Claim 6, wherein the means for using is activated by
2 closing a window in which the data value is rendered.

1 Claim 19 (new): The system according to Claim 6, wherein the means for using is activated by a
2 widget losing focus, wherein the widget is associated with the data value.

1 Claim 20 (new): The method according to Claim 1, further comprising the steps of:
2 upon closing a window in which the data value is rendered, delegating validation of the
3 data value to the data model; and
4 responding to the delegation by using the defined validation criteria to validate the data
5 value.

1 Claim 21 (new): The computer program product according to Claim 9, wherein the computer-
2 readable program code means for using is activated upon receiving, by the data model, a
3 notification that the data value has changed.

1 Claim 22 (new): The method according to Claim 1, further comprising the steps of:
2 revising the defined validation criteria for the data value; and
3 encapsulating the revised validation criteria within the data model, thereby enabling
4 changeable validation of the data value.

- 1 Claim 23 (new): The system according to Claim 6, further comprising:
 - 2 means for revising the defined validation criteria for the data value; and
 - 3 means for encapsulating the revised validation criteria within the data model, such that the
 - 4 means for using validates the data value with the revised validation criteria.

- 1 Claim 24 (new): The computer program product according to Claim 9, further comprising:
 - 2 computer-readable program code means for revising the defined validation criteria for the
 - 3 data value; and
 - 4 computer-readable program code means for encapsulating the revised validation criteria
 - 5 within the data model, thereby enabling the computer-readable program code means for using to
 - 6 validate the data value with changeable validation criteria.